



## ABOUT THE COMPANY

### STAFF

about 50 employees  
2/3 are graduates: civil engineers, geologists,  
geophysicists, engineering geologists, chemists  
1/3 are technicians

### EQUIPMENT

- Geotechnical laboratory
- Field testing devices
- Extensive geotechnical data base  
(information on 25.000 examined sites)
- State-of-the art workplaces (network, CAD)
- Fleet of vehicles
- Subsidiaries at project sites

### FIELDS OF ACTIVITY

- Foundation engineering (shallow foundations, deep foundations,  
retaining structures, excavation pits, trenches, underground structures,  
ground-water lowering)
- Earthworks and rock engineering (foundation beds, mechanical  
slope stabilisations, rock stabilisations)
- Infrastructure engineering (railways including high-speed rail links with  
ballastless track, roads, highways, bridges, tunnels, airports)
- Hydraulic engineering (dams, dykes, embankments, waterfront  
structures, port constructions, inverted syphons, locks, ship hoist works)
- Special foundation techniques (ground improvement, grouting,  
underpinning, tunnelling-through, jacking-through)
- Environmental engineering (construction of waste deposits, safety and  
control of contaminated wastes, rehabilitation of contaminated sites,  
environmental impact assessment)

### SPECIALIST AREAS

- Soil mechanics
- Rock mechanics
- Soil dynamics
- Computational geomechanics
- Water management
- Geology, engineering geology
- Geohydrology
- Geophysics
- Geochemistry

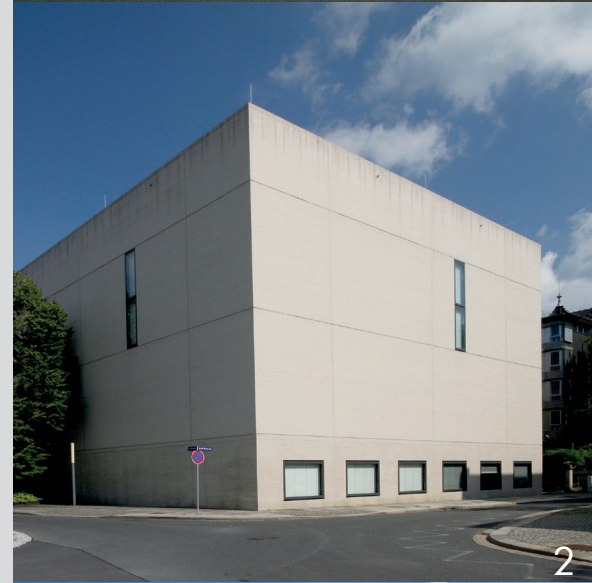
### SERVICES

- Geotechnical and civil engineering consulting
- Water management related consulting
- Geotechnical reports
- Expert advice
- Geotechnical laboratory investigations
- Geotechnical in situ testing
- Soil dynamic measurements
- Evaluation of radon risk in ground
- Design for foundation engineering, earthworks, hydraulic engineering,  
rock engineering and special foundation techniques
- Project management and supervision





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## FOUNDATAION ENGINEERING

### FOUNDATIONS

- Investigation and assessment of ground conditions
- Optimisation of foundations
- Design of single and strip foundations, slab foundation, pile foundations and combined pile-slab foundations
- Construction supervision during foundation works

### RETAINING STRUCTURES AND EXCAVATION PITS

- Investigation and assessment of soil and foundation conditions
- Optimisation of sheeting and retaining structures
- Design for retaining structures and pit support systems including dewatering measures
- Construction supervision during the construction of pit support systems and retaining structures

### REHABILITATION OF HISTORICAL BUILDINGS

- Investigation and assessment of soil and foundation conditions with regard to the historical basic structure of the building
- Recommendations and designs of measures for an efficient improvement of building foundations

- 1 Romain-Rolland Secondary School in Dresden: Geotechnical report, geotechnical consultancy, execution drawings
- 2 Public Record Office in Dresden: Geotechnical report, geotechnical supervision, groundwater lowering during construction
- 3 Zwinger in Dresden, Mathematisch-Physikalischer Salon: Report on the ground and the existing structure, geotechnical supervision

## EARTHWORKS AND ROCK ENGINEERING

### EARTHWORK STRUCTURES AND SOIL MECHANICAL MEASURES

- Design of measures for foundation layers and foundation beds
- Soil mechanical testing
- Geotechnical supervision of earthworks

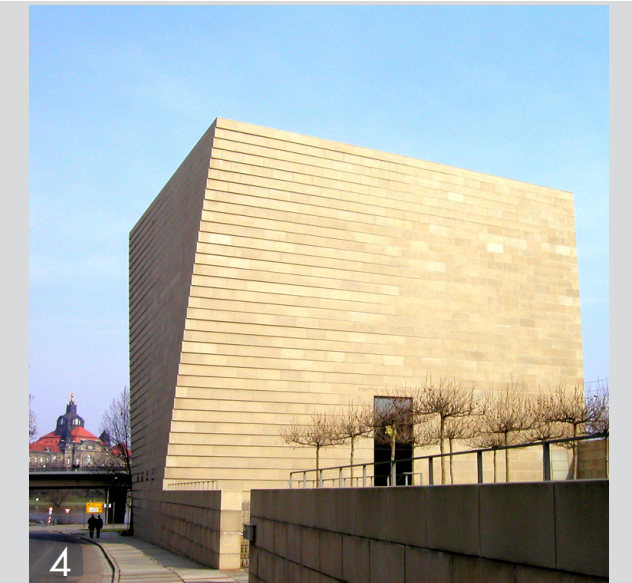
### ROCK STABILISATION AND TUNNEL CONSTRUCTION

- Analysis and assessment of solid rock
- Design for rock stabilisation and protections against rock falling
- Technical supervision of rock stabilisation and tunnel construction work

## AUTHORISATIONS

- Consulting Engineers of the Saxon Chamber of Engineers
- Expert for Geotechnical Engineering according to Building Regulations (Saxon Chamber of Engineers)
- Authorised experts for Geotechnics and Superstructure, ballastless track of the EBA (Federal German Railway Authority)
- Authorized to carry out work according to § 15 of the Radiation Protection Regulations
- Authorised safety coordinator

- 4 Construction of a new synagogue Dresden: Ground exploration, geotechnical construction supervision, optimising the bored pile foundation
- 5 Federal motorway A 71, Eichelberg Tunnel near Meiningen: Geotechnical expertise, foundation consultancy, investigations of the swelling behaviour
- 6 Königstein, rock stabilisation Bielatalstraße: Protection concept, execution drawings, construction supervision



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## INFRASTRUCTURE ENGINEERING

### RAILWAY INFRASTRUCTURE

- Technical reports on railway tracks including geotechnical and environmental investigations
- Geotechnical and environmental consultancy pre- and during construction
- Design of earthworks and obtaining railway specific approvals
- Authorized technical expert services

### HIGH SPEED RAILWAY LINES

- Design, review and checking of ballastless track systems
- Design, monitoring and implementation of measures aiming at low track deformations
- Monitoring of dynamic loading due to train traffic including data acquisition and assessment

### ROADS AND MOTORWAYS

- Geotechnical reports including geotechnical and environmental investigations
- Geotechnical consultancy during construction
- Earthwork quality testings
- Design of earthwork structures and soil improvement

- 1 New railway line Erfurt – Halle/Leipzig: Consultancy during design and execution of pile foundations of the Unstrut Viaduct
- 2 New railway line Nuremberg – Ingolstadt: Geotechnical assessment of the building permission application and construction design for the ballastless track
- 3 New railway line Erfurt – Halle/Leipzig: Consultancy during the design and construction for the entire track

## SPECIAL FOUNDATION TECHNIQUES

### GROUND IMPROVEMENT

- Tests for soil improvement and stabilisation
- Design of structures including ground improvement
- Geotechnical consulting during the execution

### GROUTING

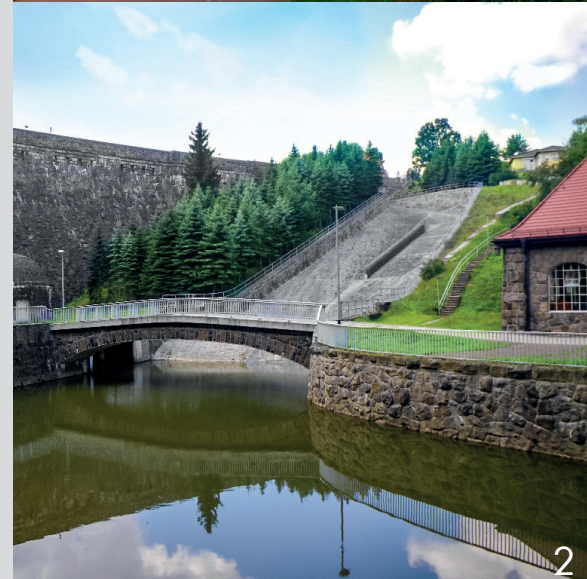
- Design and supervision of grouting works
- Geotechnical consulting on grouting of historical foundations
- Design and supervision of compensation grouting on operational railways with slab tracks

### GEOSYNTHETICS

- Design, review and checking and geotechnical consulting regarding geosynthetics for soil improvement, for compensating subsidence areas, for stabilising slopes, sealing and dewatering

- 4 Federal motorway A 72 Chemnitz – Leipzig: Geotechnical exploration, consultancy and foundation works consultancy
- 5 Upgraded railway line Rostock – Berlin: Checking the embankment improvement with geogrids for the Federal Railway Authority (EBA)
- 6 Federal motorway A 17 Dresden – Prague: Geotechnical exploration, earthwork check tests and construction supervision





## HYDRAULIC ENGINEERING

### DAMS

- Comprehensive geotechnical investigations for dams and reservoirs including stability analyses
- Geotechnical design of dams
- Suitability tests of dam construction materials
- Construction supervision including monitoring of seepage flow and of structural movements

### WATERWAYS AND WATERFRONT STRUCTURES

- Geotechnical investigations of embankments, dikes and waterfront structures
- Stability and serviceability analyses
- Geotechnical design of rehabilitation and improvement measures
- Construction supervision especially for quality assurance

### FLOOD PROTECTION

- Mapping and documentation of flood regions
- Design of flood protection measures
- Design of flood protection facilities
- Hydrogeological modelling of surface water and groundwater flow

- 1 Klingenberg dam: Geotechnical investigations of the strata below the dam and for the flood spillway
- 2 Malter dam: Investigations of ground, structures according to waste-handling regulations, geotechnical report
- 3 Main-Danube Canal, maintenance of embankments: Stability analyses, building permission application and execution drawings, site supervision

## ENVIRONMENTAL ENGINEERING

### LANDFILLS

- Site assessment for new landfills
- Design for landfill extensions
- Deformation analyses of landfills
- Suitability testing of sealing materials
- Soil mechanical tests

### WASTE AND CONTAMINATED SITES

- Investigation of contaminated sites and risk assessment
- Determination of pollutant emissions
- Geohydrological and geochemical modelling of contaminated deposits
- Rehabilitation concepts for contaminated sites
- Licencing procedures related to regulations on water and waste handling, radiation protection and soil protection
- Management of rehabilitation works

- 4 Former uranium processing facility Dresden-Coschütz/Gittersee: Final deposit of stockpiles A and B, rehabilitation management
- 5 State Capital City of Dresden – flood protection: Assessment of ground and structural conditions, geotechnical reports, foundation recommendations
- 6 Open brown coal pit Inden: Geotechnical exploration and laboratory tests





## INTERNATIONAL ACTIVITIES

### CONSULTANCY, PLANNING AND DESIGN

- Assessment of geotechnical reports made by local companies
- Developing specifications for geotechnical investigations
- Foundation recommendations considering local regulations
- Geotechnical design for foundation structures, earthwork measures and pile load tests

### ON-SITE CONSTRUCTION SUPERVISION

- Geotechnical consultancy
- Soil testing
- Supervision of local construction companies
- Supervision and evaluation of pile loading tests

### PROJECT MANAGEMENT

- Commissioning and coordination of geotechnical investigations
- Quality management and safety and health coordination

- 1 Polypropylene plant in Tobolsk (Russia): Geotechnical report, consultancy on foundation, construction supervision for pile works
- 2 VW plant in Kaluga (Russia): Geotechnical consultancy, foundation design, foundation acceptance and quality tests
- 3 Waste treatment plant in Brest (Belarus): Geotechnical consultancy, foundation consultancy

## OTHER FIELDS OF ACTIVITY

### RECOLTIVATION OF FORMER SURFACE MINING SITES

- Investigation of sand deposits in the Lausitz area that are prone to settlement flow and subsidence
- Development of suitable methods for stability analyses for soils susceptible to liquefaction

### OFFSHORE WIND ENERGY PLANTS

- Geotechnical reports, geotechnical consultancy and construction supervision for foundations
- Foundation design for innovative offshore wind energy plants

### RESEARCH AND DEVELOPMENT

- Stability analyses of collapsible soils based on advanced soil mechanical material models
- Deformation and bearing capacity analyses for foundations under cyclic and dynamic loadings in saturated soil and soil prone to liquefaction respectively

- 4 Construction of a new Q-Cells solar cells plant in Cyberjaya: Geotechnical consulting, supervision of the work with driven piles
- 5 Velux plant in Rostov (Russia): Geotechnical report, consultancy on foundation, supervision of pile testing
- 6 High speed railway line Wuhan – Guangzhou (China): Geotechnical consultancy and design check for ballastless tracks



LOCATIONS OF MAJOR INTERNATIONAL PROJECTS

